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February 20, 1984

IRON AGE METALS PRODUCER

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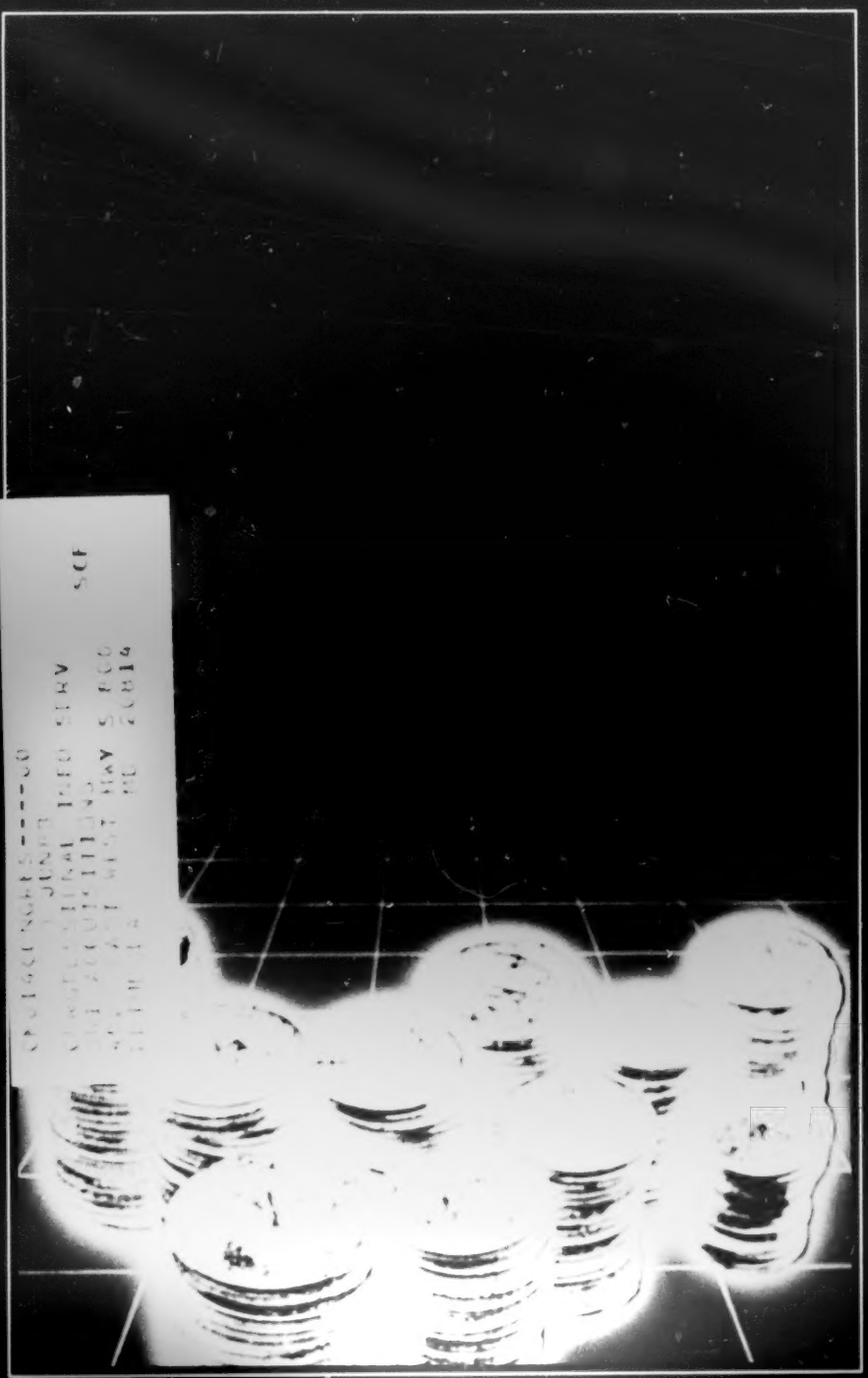

WORLD STEEL FINANCING: BUILDING ON GREAT EXPECTATIONS

IN PLANT SPOTLIGHT: INSIDE BETHLEHEM'S CONTINUOUS CASTING PROJECT

THE HOT SPOT: DEBATING THE 201 AGREEMENT

MANNESMANN MOVES TO MINI-MILL EFFICIENCY

FEBRUARY 20, 1984 VOL. 227, NO. 4

IRON AGE METALS PRODUCER

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IRON AGE (ISSN 0164-5137) is published 24 times a year by CHILTON COMPANY, Chilton Way, Radnor, PA 19089. Chilton Co. is a division of American Broadcasting Companies, Inc., New York, N.Y. Second Class Postage Paid at Wayne, PA 19087 and additional mailing offices. IRON AGE is sent on a controlled free basis to qualified managers in U.S. metalworking companies. Non-metalworking companies, services, government, institutions, schools and colleges, $42 one year. Canada, $42 year. Foreign, $49 one year. Single copies, $2.50. Cable Chilton Philadelphia.
Send address changes to IRON AGE, P.O. Box 1440, Riverton, N.J. 08077.

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WORLD STEEL FINANCING

BUILDING ON GREAT EXPECTATIONS

Outside money is available on liberal terms and technology is providing opportunities for investments.

The world steel industry is starting to build on expectations.

Major capital programs are going forward entirely on the basis of expected future returns. The gap between the grim present and a brighter future is being bridged entirely by debt.

There is no shortage of lenders. In order to sell equipment, foreign sources are offering low interest loans, sometimes unsecured, with flexible repayment schedules.

Prime examples of the new approach are the big casting programs of Bethlehem Steel Corp. (see article beginning on page 67) and Inland Steel Co. Both companies are borrowing all their capital. In both cases, repayment starts only when machines are producing steel and savings.

Similar proposals have been made for the new continuous caster of Rouge Steel Co. Reportedly coming up are casters for the Gary Works of United States Steel Corp. and the Great Lakes Works of United States Steel Corp.

All this is a break from traditional spending patterns. To a considerable extent, steel spending has always been governed by past returns. When steel profits doubled in 1975, steel spending rose 50 pct in 1975.

To a large extent, steel projects have been paid for out of internal cash generation-past and current. From 1970 through 1981, the steel industry invested $30 billion. In that period, the industry's long term debt rose only $2.2 billion. At the start of 1982, debt represented only 30 pct of invested capital.

This is in sharp contrast to the course followed by Japan's steel industry. The Japanese have borrowed heavily against expectations. This practice has produced dynamic growth, modern facilities, and a capital structure with 80 to 90 pct debt.

With sluggish growth and highly cyclical markets, American producers have probably been wise to follow more conservative policies. Had they been top heavy with debt, high interest rates could literally have killed major mills in the deep recession of 1982 and 1983.

However, the same recession provided an extreme example of a long standing steel problem. There was no internal cash in 1982. The industry had a

negative cash flow of $391 million. Steel companies obviously were in no position to carry out vigorous modernization programs.

The 1982 situation was extreme but not unique. Over the years, the steel industry's cash generation has fallen far short of capital needs. A 1980 study by the American Iron & Steel Institute (AISI) concluded that the industry should be spending $4.4 billion a year for replacement and modernization.

Since the start of 1979, spending for steel operations has run around $2.5 billion a year. Total capital spending has been greater but a growing portion of this has gone to diversified operations.

Failure to Modernize

The effect has been to create a vicious circle. The mills haven't been making enough profit to modernize. The failure to modernize has held down profits.

Now there is a move to burst out of the circle by making greater use of other people's money. Outside money is available on liberal terms, and new technology is providing opportunities for attractive investments. There is an awareness that the industry can't just drift along with business-as-usual policies; modernization is a must.

In any event, there is a new spirit of boldness or recklessness or desperation. "You have companies coming out of bankruptcy wanting off-the-balance sheet financing," said George M. Baughman, president of Mannesmann Demag Wean. "They want Bethlehem or better regardless of their ability to pay."

As has been indicated, the pattern established at Bethlehem and Inland calls for 100 pct borrowing with payments deferred until machines begin operating. At Inland, fixed payments are specified. In the Bethlehem project, payments are tied to the tonnage produced by casters; there is no floor under the deal.

"If there isn't sufficient production, the participants might not get paid back," said Robert C. Wilkins, Bethlehem's finance vice president.

As this suggests, the boldness of the steel companies is matched by the generosity of lenders. "There's plenty of money available," said Mr. Wilkins. "Despite Washington's talk of a credit crunch," he indicated, "there are willing lenders in this country and abroad."

This willingness, along with imaginative use of the tax laws, has made it possible to minimize money costs. In leasing agreements, payments are reduced by transferring tax benefits. The outright sale of tax benefits is another offset for the profitless steel companies.

Particularly willing and eager to lend money are foreign companies. For Bethlehem's program, $190 million is coming from Austrian banks. In this situation and others like it, financing is tied to the purchase of equipment abroad. Bethlehem's casters are being built by Voest-Alpine, a steel producer and equipment company owned by the Austrian government.

"Viewed from the perspective of history, the foreign aid is only fitting," said Klaus Czempirek, executive vice president of Voest-Alpine. "We financed our modernization and the expansion of our Linz plant with funds of the Marshall Plan," said Dr. Czempirek.

These words are appropriate because something like a reverse Marshall Plan is now operating. The two continuous casters recently started at Wheeling-Pittsburgh Steel Corp. were purchased through Mitsubishi Corp. Mitsubishi's financing reportedly covered not just equipment but the whole construction package.

Mitsubishi is also involved in the $200 million continuous casting program recently launched by Inland Steel Co. Unlike Bethlehem, Inland will be making flat payments. Like Bethlehem, Inland will start paying only when steel is being cast.

As has been said, the availability of foreign financing is linked to the sale of foreign equipment. Wheeling-Pittsburgh's casters came from Hitachi Zosen Corp. of Japan and Mannesmann Demag of West Germany.

The big slab caster started in December at the Indiana Harbor Works of Jones & Laughlin Steel Corp. was supplied by a consortium of Concast, Inc., and Sumitomo Metal Industries, Ltd.

Most of the casting equipment for Inland's project is coming from Hitachi Zosen and from Mannesmann Demag in Germany. Republic's slab caster at Cleveland came from Mannesmann Demag.

Buying Foreign

In explaining why they are buying foreign equipment, domestic producers have a simple answer. "...continuous casting equipment technology is just not available here in the United States," said Walter F. Williams, president of Bethlehem.

"Even at that," added Mr. Williams, "less than 30 pct of the total project cost will be spent for foreign-supplied equipment."

Finance people are still mulling the terms of the Bethlehem program. "It's either the most ingenious financing deal ever devised or the most unnecessarily complex," said one executive.

The deal was complicated enough to require considerable working out. "There were times when we thought the casters might be completed before the paperwork," said Mr. Wilkins.

On Dec. 1, however, Bethlehem announced that all elements were in place. As explained by Mr. Wilkins, the general arrangement is this:

The total cost, with capitalized interest, will be $540 million. An owner trust will borrow the money. Bethlehem will be the general contractor and will lease the casters from the trust when the project is finished. Payments will then be based on usage.

"Simply put, the more tons we produce, the more we pay — and vice versa," said Mr. Wilkins. "There is, however, an upper limit on the total annual payment."

The payments are expected to cease after 10 years but could extend to 15 years. Bethlehem has an option to buy the casters at the end of 15 years at a fixed price.

Potential equity participants in the financing are Chemical Bank; Bankers Trust Co.; and Morgan Guaranty Trust Co. of New York. Morgan is a co-agent.

A second group of six North American banks is participating in the debt portion of financing. Also lending money — $190 million — are Austrian banks, including the country's export bank.

The Bethlehem financial package is not secured by any collateral. Inland

said the same thing is true of its financing, but the company has provided few details on the transaction. Industry sources said that at least some portions of the deal are covered by guarantees.

In any event, both projects are based ultimately on the confidence of all parties that the casters will pay for themselves with something to spare.

"We will base load our casters," said an Inland official. That means the machines will have high utilization rates even in very weak markets.

There is every reason to believe continuous casting will justify the confidence of lenders and borrowers. However, there is not quite the same level of assurance that went into the financing of U.S. Steel's new seamless mill at Fairfield, Ala. There, the borrowing was underwritten by take-or-pay commitments of customers.

Take-or-Pay

The joint iron ore ventures were financed in a similar manner — by take-or-pay contracts of participants. These proved a source of great sorrow to the mills when the steel market collapsed in 1982.

In the casting ventures, assurance is provided by the well-documented superiority of a process. "Continuous casting makes possible higher yields, energy and other cost savings," said Mr. Wilkins of Bethlehem. "These savings amount to about $35 to $40 on each ton — more than double the amount required to finance them."

Analyst John C. Tumazos of Oppenheimer & Co. said, the Inland project would be less expensive. On the basis of probable production, said Mr. Tumazos, Inland's payments would work out to no more than $10 a ton.

While such words as project financing, leverage leasing, and off-the-balance sheet financing are used to describe the new ways of raising money, they all constitute a form of borrowing.

"It's all debt," said Mr. Wilkins. "The $540 million being put up by the banks is all borrowed money as far as we're concerned. All the money has to be repaid."

Does this mean U.S. producers are prepared to emulate the Japanese and go to highly leveraged structures? Not really, Mr. Wilkins indicated.

"This is just a portion of what we will be spending in a five year period," he said.

With other projects financed along more conventional lines, Bethlehem and others will keep their debts to manageable dimensions. It's doubtful, for example, that anyone would attempt to finance a coke battery with 100 pct borrowing.

There are, however, areas where some bold financing might be in order. ASEA, Inc., reported that the new controls it installed on a bar mill at Chaparral Steel Co. paid for themselves in three or four months. According to suppliers, water-cooled panels for electric furnaces have a one month payback.

There are other favorable opportunities, but among the major facilities, continuous casting is unique in that it saves enough to justify investments strictly on a replacement basis.

Bootstrap Operation

To realize the saving, the mills have mounted a massive boostrap operation. Bethlehem's $540 million project will provide a 2.9 million ton slab caster at Sparrows Point by January, 1986, and a 2.2-million-ton slab caster at Burns Harbor by April of 1986.

These will be in addition to the slab caster now operating at Burns Harbor and the big bloom caster recently started at Steelton, Pa.

"When all four casters are in operation," said Mr. Williams, "Bethlehem will be casting 60 to 65 pct of its semi-finished steel requirements."

Sparrows Point will have two casting machines, each capable of casting single widths up to 86 in. wide or double widths up to 37 in. wide.

Burns Harbor is getting a single two-strand machine. Casting widths will be the same as at Sparrows Point but only one strand will be able to cast double widths.

The Voest-Alpine casters will have straight molds. Slabs will be bent below the molds while the cores are still liquid. At one time, all casters had straight molds. In order to reduce machine height and cost, the curved mold was introduced and has become standard.

In explaining why it has stayed with the straight design, Voest-Alpine points out that impurities can be trapped when they float upward in a curved mold.

Factors Determining Test Discount Rates

In a recent report, the International Iron and Steel Institute (IISI) described the methods used to evaluate steel investments in different countries. The report was based on a survey of 63 companies in 29 countries.

The strong influence of financing costs was shown by replies to a question which asked companies to rank investment factors in order of importance.

Country	Weighted Average Cost of Capital		Current Interest on Borrowings		Future Interest on Borrowings	
	No.	Pct.	No.	Pct.	No.	Pct.
Europe	11	57.9	13	68.4	9	47.4
N. America	11	84.6	9	69.2	7	53.8
Japan	5	55.6	3	33.3	4	44.4
L. America	6+	66.7	6	66.7	5	55.6
Others	6	75.0	5	62.5	3	37.5
TOTAL	**39**	**67.2**	**36**	**62.1**	**28**	**48.3**

Robert C. Wilkins (top) vice president of finance for Bethlehem explains the financing arrangement for the company's continuous casters built by Voest Alpine and illustrated below in a working model.

This was a problem when curved molds were first used on big slab machines. The problem has since been minimized by cleanliness in steelmaking.

Other advantages cited for the straight mold are easy alignment and even heat transfer. Uniform cooling is considered particularly critical in high speed casting. The Bethlehem machines are being built to cast slabs up to 10 in. thick at speeds up to 67 ipm.

"That permits casting of critical grades of steel that have demanding quality requirements," said Mr. Williams of the high speed.

The casters will have large tundishes, capable of holding 70 tons. The large size is seen promoting cleanliness. The machines will be equipped with variable width molds. Width changes will be made on the fly, permitting the good utilization which is particularly important under the tolling arrangement.

"...these casters represent a giant step forward toward Bethlehem's goal of being the best domestic producer in terms of productivity, quality and service," said Mr. Williams.

Bethlehem makes the point that most of the spending for the casters will go to domestic suppliers. Construction engineering is coming from United Engineers and Constructors, Inc., of Philadelphia. Fifteen overhead cranes will be made in the U.S. Bethlehem will serve as its own general contractor.

Voest-Alpine is supplying the caster design engineering. The two elements — design and manufacturing — don't necessarily come from the same supplier. It's possible to buy design engineering from a foreign company and have the equipment built in the U.S.

License Agreements

"The technology is available in this country by way of license agreements," said R.J. Wean, Jr., chairman of Wean United, Inc. Under license to Concast, Inc., Wean United built the slab casters at the Great Lakes and Granite City plants of National Steel Corp. The company is now aligned with Mannesmann Demag.

U.S. manufacture was used for most of the equipment going into the bloom casters supplied by Mannesmann Demag to U.S. Steel at Lorain, Ohio, and Bethlehem at Steelton.

Concast now works with E.W. Bliss when domestic manufacture is specified. Bliss, which is now an independent company, built the caster at Kaiser Steel Corp. and was involved in the rebuilding of U.S. Steel's caster at Gary.

Voest-Alpine is just entering the American casting market, but the company will provide domestic manufacture if the customer wants it.

"The price might be a little different," said an official.

The equipment price might be different and the financing terms would certainly be different with American manufacture. "If you're looking at an export package, you're probably taking 8 to 12 pct," said Benno F. Kialka, commercial manager for Mannesmann Demag Wean. With domestic financing, he indicated, interest runs from 11 to 15 pct.

While the financing is tied to equipment sales, the actual working out of money terms will often be done separately. A price will be set by the equipment company and the financing will then be arranged by a trading company or bank.

Mitsubishi has been involved in a number of recent programs. "At this moment, there are two things the U.S. can enjoy from Japan," said a Mitsubishi official. "One is excellent machinery. The second thing is good, long term interest rates."

In the Bethlehem project, domestic banks are lending a major portion of the money. Domestic equipment people were surprised to hear this. Their own efforts to match foreign financing has been discouraging.

The Bethlehem project has a floating interest rate. In estimating money costs, Bethlehem is assuming a rate of 12 pct. Mr. Wilkins says a similar financing package could have been put together entirely with domestic sources.

The focal point for steel equipment and their bankers is Pohang Iron and Steel Co., Ltd., of South Korea.

The 3 million ton integrated mill planned by Pohang is the only steel expansion of this magnitude underway in the world.

The American portion of $2.5 billion project is apparently down to a possible $30 million. The U.S. Export-Import Bank had indicated it will provide loan guarantees for that amount if Dravo Corp. and Air Products and Chemicals, Inc., are successful bidders.

Another $40 million quarantee was scheduled to go to General Electric Co., but GE lost out to foreign suppliers in its bid for electrical equipment at Pohang.

A spokesman for the Ex-Im Bank defended the offering of guarantees, noting that the great bulk of the Korean project was being financed by its counterparts in Japan, the United Kingdom, West Germany, and Austria.

In recent fiscal years, the steel related projects supported by the Ex-Im Bank have totaled: 1979-$330 million; 1980-$87.6 million; 1981-$505.8 million; 1982-$11.8 million; 1983-$7.2 million.

Many American suppliers considered the financial competition too fierce to even bid on Pohang. Equipment people said the outlook for foreign sales was bleak. With other countries offering the most liberal financing terms, they said, the U.S. Ex-Im Bank has been subjected to tighter control.

Under legislation passed last year, there must be a feasibility study before credits or loan guarantees are offered for a foreign project.

"Between the financing and the strong dollar, it's very difficult," said one supplier.

The difficulties are increased by the very limited amount of steel mill construction throughout the world. Wean United, Inc., is building a pickling line for Dofasco, Inc. It's expected Dofasco will turn loose a cold mill for sheet some time this year.

Various attempts have been made to curb overly generous international financing. The International Monetary Fund is due to increase its interest rates May 1 of this year. Last year, the OECD Export Credit Group supposedly set subsidy limits on all financing.

None of these steps seem to have ended the bargain credit terms. Recent loans for steel projects in Mexico and India have reportedly called for no interest at all.□

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Change in Long-Term debt
(millions of dollars)

Year	Amount
1970	+ $526
1971	+ 10
1972	+ 85
1973	− 267
1974	− 312
1975	− 1,054
1976	+ 1,262
1977	+ 992
1978	+ 804
1979	− 46
1980	+ 659
1981	− 431
1982	+ 5,715
TOTAL	**+$2,228****

**Does not include 1982 Source: AISI

Net Internal Sources
(millions of dollars)

Year	Amount
1970	$1,172
1971	1,296
1972	1,589
1973	2,158
1974	3,354
1975	2,528
1976	2,314
1977	1,355
1978	2,709
1979	3,014
1980	3,265
1981	5,376.8
1982	(381)
TOTAL	**$30,130.8****

**Does not include 1982 Source: AISI

Capital Expenditures
(millions of dollars)

Year	Amount
1970	$1,736
1971	1,425
1972	1,174
1973	1,400
1974	2,116
1975	3,179
1976	3,253
1977	2,650
1978	2,595
1979	3,512
1980	3,319
1981	3,365
1982	4,219
TOTAL	**$29,723****

PRICE & PRODUCTION DATA

(Effective February 6, 1984)

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
North East Coast	237	212	145	163
Buffalo	10	10	7	34
Pittsburgh	265	243	172	160
Youngstown	114	114	76	89
Cleveland	146	135	116	90
Detroit	150	143	101	119
Chicago	565	557	331	393
Cincinnati	94	97	66	74
St. Louis	76	83	39	56
Southern	196	194	132	113
Western	81	78	66	61
U.S. Production	1,934	1,868	1,251	1,358

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports. Rail transportation, handling and unloading may be charged to the account of the buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural).....gross-ton 80.50-86.9*
Mesabi, regular-unscreened .....gross-ton $32.53
Mesabi, non-bessemer.....gross-ton $30.03-31.53**

*80.50¢—Pickands Mather as of 1/27/81.
86.9¢—U. S. Steel as of 3/15/82. Cleveland-Cliffs as of 2/26/82, Oglebay Norton as of 3/25/82, and Hanna Mining as of 2/26/82.
**Effective 8/1/83.

STEEL PRODUCTION, COMPOSITE PRICES

(Effective February 6, 1984)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1984	To Date 1983
Net tons, in thousands	1,934	1,868	8,963	6,284
Capability Utilization Rate	74.8	72.3	69.4	43.4

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 9/1/83)	26.822	26.822	26.822	25.954
Pig Iron* * (Net ton = 2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.* * * (Gross ton = 2240 lbs.)	$ 95.17	$ 95.17	$ 90.50	$ 67.50
No. 2 bundles	$ 61.17	$ 60.83	$ 58.50	$ 47.83

Scrap Comparison (Gross Ton)

No. 1 steel, Pittsburgh .	$103.50	$103.50	$ 96.50	$ 69.50
No. 1 steel, Philadelphia ..	91.50	91.50	89.50	61.50
No. 1 steel, Chicago.....	90.50	90.50	85.50	71.50
No. 1 bundles, Detroit	101.50	101.50	86.50	61.50
Low Phos., Youngstown	104.50	97.50	88.50	69.50
No. 1 mach'y cast., Pgh...	79.50	79.50	79.50	66.50
No. 1 mach'y cast., Phila	100.50	100.50	97.50	98.50
No. 1 mach'y cast., Chi..	111.50	111.50	115.50	109.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.
**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.
***Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective February 6, 1984) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum	81.00	76.00-81.00	9/27/83
Copper (C)	68.00-69.00	67.00-69.00	2/3/84
Lead	24.00-28.00	25.00-28.00	1/16/84
Magnesium Ingot	143.00	138.00	1/3/84
Nickel	329.00	350.00	11/25/81
Titanium Sponge	555.00-585.00	555.00	4/29/82
Zinc	51.00	49.00-51.00	1/10/84

ALUMINUM: 99.5%. COPPER (C) = cathode. LEAD: common grade. MAGNESIUM: 99.8% pig. delivered. NICKEL: electro., Port Colborne, Canada. ZINC: high grade.

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$215.00
Beryllium-copper, per lb. cont. Be	$130.00
Beryllium 97% powder 200	$178.00
Bismuth, ton lots	$1.65-$1.80
Cadmium, ton lots	$1.25
Calcium, ton lots, crown	$3.05
Chromium, 99.8%	$3.75
Cobalt, 99%, cathode	$12.50
Gold per troy oz.	$380.80
Indium, dollars per troy oz.	$2.43-$2.65
Iridium, dollars per troy oz.	$600
Magnesium sticks, 10,000 lbs.	$1.91
Mercury, per 76-lb. f.o.b. N.Y.	$298-$350
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$5.85
Nickel oxide sinter at U.S. points of entry	$3.12
Palladium, per troy oz.	$140
Platinum, per troy oz.	$475
Rhodium, per troy oz.	$600.00
Silver ingots, per troy oz.	$8.88
Vanadium	$6.00
Zirconium sponge	$12.00-$17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb, EX-SMELTER, based on daily market in Penang in Malaysian dollars per kilo.)

Jan. 30—567.37 Feb. 2—Holiday
Jan. 31—564.99 Feb. 3—Holiday
Feb. 1—565.52

Scrap Prices
Brass Mill Scrap

(Cents per lb; over 20,000 lbs. add 1¢ per lb)

	Solids	Turning
Copper	61⅛	60
Yellow brass	57	57
Red brass	58	58
Comm. bronze	58¼	58¼
Mang. bronze	59¼	57¼
Free cutting rod ends	57	56

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	61
No. 2 copper wire	52
Light copper	43

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	57
No. 2 copper wire	48
Light copper	39
No. 1 composition	52
No. 1 comp. turnings	50
Hvy. yellow brass solids	32
Hvy. yellow brass turnings	28
Radiators	42

Aluminum

New mixed clips	52	—53
Old sheet	50	—51
Old cast	50	—51
Clean dry borings	50	—51

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	41	—42
Mixed L.C. clips	37	—38
Old sheets and cast	35	—36
Borings and turnings	26	—27
Duraluminum clippings	28	—29

Copper and Brass

No. 1 copper wire	48	—49
No. 2 copper wire	40	—41
Light copper	36	—37
Radiators	33	—34
No. 1 composition	42	—43
No. 1 composition turn'gs	40	—41
Cocks and faucets	28	—29
Clean heavy yellow brass	25	—26
Brass Pipe	28	—29
New soft brass clippings	41	—42

Lead

Heavy soft lead	8	— 9
Whole batteries	3	— 4
Type metal	15	—16
Electrotype	13	—14

Nickel

Nickel solids	110	—120
Nickel rod ends	110	—120
Nickel sheets, clips	110	—120
Nickel turnings	50	— 60

Zinc

New zinc clippings	15	— 16
Old diecast zinc	10	— 11

EFFECTIVE FEB. 6, 1984

(Effective February 6, 1984) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of *Iron Age* editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$103.00 to $104.00
No. 2 hvy. melting	93.00 to 94.00
No. 1 dealer bundles	122.00 to 123.00
No. 1 factory bundles (auto)	129.00 to 130.00
No. 2 bundles	59.00 to 60.00
No. 1 busheling	123.00 to 124.00
Machine shop turn.	16.00 to 17.00
Shoveling turnings	54.00 to 55.00
Cast iron borings	53.00 to 54.00
Low phos. punchings plate	127.00 to 128.00
Heavy turnings	93.00 to 94.00
No. 1 RR hvy. melting	119.00 to 120.00
Rails 2 ft. and under	125.00 to 126.00
Scrap rails, random lgth	109.00 to 110.00
RR specialties	124.00 to 125.00
No. 1 machinery cast	79.00 to 80.00
Cupola cast	72.00 to 73.00
Heavy breakable cast	30.00 to 31.00
Stainless	
18-8 bundles and solids	610.00 to 615.00
18-8 turnings	510.00 to 515.00

Chicago

No. 1 hvy. melting	$ 90.00 to $ 91.00
No. 2 hvy. melting	84.00 to 85.00
No. 1 dealer bundles	114.00 to 115.00
No. 1 factory bundles (auto)	117.00 to 118.00
No. 2 dealer bundles	62.00 to 63.00
No. 1 busheling	114.00 to 115.00
Shredder scrap	103.00 to 104.00
Machine shop turn.	49.00 to 50.00
Mixed bor. and turn.	50.00 to 51.00
Shoveling turnings	60.00 to 61.00
Cast iron borings	61.00 to 62.00
Low phos. forge crop	120.00 to 121.00
Low phos. punchings plate ⅛ in. and heavier	130.00 to 131.00
Low phos. 2 ft. and under	125.00 to 126.00
No. 1 RR hvy. melting	109.00 to 110.00
Scrap rails, random lgth	102.00 to 103.00
Reroller rails	112.00 to 113.00
Rails, 2 ft. and under	125.00 to 126.00
RR couplers and knuckles	108.00 to 109.00
RR car axles	129.00 to 130.00
No. 1 machinery cast	111.00 to 112.00
Cupola cast	105.00 to 106.00
Stove plate	106.00 to 107.00
Steel car wheels	114.00 to 115.00
Stainless	
18-8 bundles and solids	540.00 to 550.00
18-8 turnings	440.00 to 450.00
430 bundles and solids	130.00 to 135.00
430 turnings	95.00 to 100.00

Philadelphia

No. 1 hvy. melting	$ 90.00 to $ 93.00
No. 2 hvy. melting	77.00 to 80.00
No. 1 dealer bundles	105.00 to 106.00
No. 2 dealer bundles	60.00 to 63.00
No. 1 busheling	107.00 to 110.00
Shredder scrap	100.00 to 103.00
Machine shop turn.	29.00 to 32.00
Mixed bor. and turn.	29.00 to 32.00
Shoveling turnings	48.00 to 51.00
Low phos. 5 ft. and under	105.00 to 108.00
Low phos. 2 ft. punchings	120.00 to 123.00
Electric furnace bundles	120.00 to 123.00
RR specialties	107.00 to 110.00
Rails, 2 ft. and under	122.00 to 125.00
Cupola cast	73.00 to 76.00
Heavy breakable cast	55.00 to 58.00
No. 1 machinery cast	99.00 to 102.00

Detroit

Broker buying prices per gross ton on cars:

No. 1 hvy. melting	$ 74.00 to $ 75.00
No. 2 hvy. melting	71.00 to 72.00
No. 1 dealer bundles	101.00 to 102.00
No. 2 bundles	49.00 to 50.00
No. 1 busheling	100.00 to 101.00
Drop forge flashings	72.00 to 73.00
Machine shop turn.	44.00 to 45.00
Mixed borings and turn.	29.00 to 30.00
Shoveling turnings	44.00 to 45.00
Cast iron borings	49.00 to 50.00
Heavy breakable cast	38.00 to 39.00
Mixed cupola cast	54.00 to 55.00
Automobile cast	77.00 to 78.00
Stainless	
18-8 bundles and solids	480.00 to 490.00
18-8 turnings	370.00 to 380.00
430 bundles and solids	130.00 to 140.00

Youngstown

No. 1 hvy. melting	$ 95.00 to $ 98.00
No. 2 hvy. melting	77.00 to 80.00
No. 1 dealer bundles	108.00 to 111.00
No. 2 dealer bundles	37.00 to 40.00
Machine shop turn.	14.00 to 17.00
Shoveling turnings	19.00 to 22.00
Low phos. plate	103.00 to 106.00
Electric furnace bundles	97.00 to 100.00
Galvanized bundles	94.00 to 97.00

Cleveland

No. 1 hvy. melting	$ 87.00 to $ 90.00
No. 2 hvy. melting	50.00 to 53.00
No. 1 dealer bundles	106.00 to 109.00
No. 1 factory bundles	109.00 to 112.00
No. 2 bundles	30.00 to 33.00
No. 1 busheling	105.00 to 108.00
Machine shop turn.	13.00 to 16.00
Mixed bor. and turn.	13.00 to 16.00
Shoveling turnings	15.00 to 18.00
Cast iron borings	18.00 to 21.00
Cut structural & plates, 2 ft. and under	123.00 to 126.00
Low phos. punchings plate	123.00 to 126.00
Drop forge flashings	62.00 to 65.00
Foundry steel, 2 ft. & under	70.00 to 75.00
No. 1 RR hvy melting	87.00 to 90.00
Rails, 2 ft. and under	125.00 to 128.00
Rails, 18 in. and under	126.00 to 129.00
Steel axle turnings	67.00 to 70.00
Railroad cast	100.00 to 103.00
No. 1 machinery cast	107.00 to 110.00
Cupola cast	63.00 to 66.00
Stove plate	48.00 to 51.00
Stainless	
18-8 bundles	375.00 to 385.00
18-8 turnings	325.00 to 335.00
430 bundles	80.00 to 85.00

Buffalo

Broker buying prices per gross ton on cars:

No. 1 hvy. melting	$ 80.00 to $ 81.00
No. 2 hvy. melting	64.00 to 65.00
No. 1 busheling	92.00 to 93.00
No. 1 dealer bundles	91.00 to 92.00
No. 2 bundles	43.00 to 44.00
Machine shop turn.	15.00 to 16.00
Mixed bor. and turn.	13.00 to 14.00
Shoveling turnings	20.00 to 21.00
Cast iron borings	27.00 to 28.00
Low phos. plate	101.00 to 102.00
Structural and plate, 2 ft. and under	105.00 to 106.00
Rails, 2 ft. and under	97.00 to 98.00
Scrap rails, random lgth	77.00 to 78.00
No. 1 machinery cast	89.00 to 90.00
No. 1 cupola cast	59.00 to 60.00

St. Louis

No. 1 hvy. melting	$ 87.00 to $ 88.00
No. 2 hvy. melting	76.00 to 77.00
Foundry steel, 2 ft.	76.00 to 77.00
No. 1 dealer bundles	87.00 to 88.00
No. 2 bundles	73.00 to 74.00
Machine shop turn.	22.00 to 23.00
Shoveling turnings	29.00 to 30.00
Cast iron borings	40.00 to 41.00
No. 1 RR hvy. melting	97.00 to 98.00
Rails, random length	94.00 to 95.00
Rails, 18 in. and under	107.00 to 108.00
RR specialties	100.00 to 101.00
Cupola cast	74.00 to 75.00
Heavy breakable cast	53.00 to 54.00
Stove plate	88.00 to 89.00
Cast iron car wheels	57.00 to 58.00
Rerolling rails	102.00 to 103.00
Unstripped motor blocks	64.00 to 65.00

Birmingham

No. 1 heavy melting	$ 80.00 to $ 81.00
No. 2 heavy melting	74.00 to 75.00
No. 1 dealer bundles	85.00 to 86.00
No. 2 bundles	60.00 to 61.00
No. 1 busheling	84.00 to 85.00
Shredder scrap	115.00 to 116.00
Machine shop. turn.	41.00 to 42.00
Shoveling turnings	50.00 to 51.00
Cast iron borings	50.00 to 51.00
Electric furnace bundles	75.00 to 76.00
Elec. furnace, 3 ft. & under	79.00 to 80.00
Structural and plate, 2 ft.	114.00 to 115.00
Structural and plate, 4 ft.	110.00 to 111.00
No. 1 RR hvy. melting	110.00 to 111.00
Scrap rails, random lgth	105.00 to 106.00
Rails, 18 in. and under	117.00 to 118.00
Angles and splice bars	109.00 to 110.00
No. 1 cupola cast	96.00 to 97.00
Unstripped motor blocks	80.00 to 81.00

Cincinnati

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 80.00 to $ 81.00
No. 2 hvy. melting	73.00 to 74.00
No. 1 dealer bundles	93.00 to 94.00
No. 2 bundles	48.00 to 49.00
Machine shop turn.	17.00 to 18.00
Shoveling turnings	19.00 to 20.00
Cast iron borings	30.00 to 31.00
Low phos. 18 in. and under	115.00 to 116.00
Rails, random length	93.00 to 94.00
Rails, 2 ft. and under	110.00 to 111.00
No. 1 cupola cast	81.00 to 82.00
Heavy breakable cast	42.00 to 43.00
Drop broken cast	95.00 to 96.00

New York

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 48.00 to $ 49.00
No. 2 hvy. melting	40.00 to 41.00
No. 2 dealer bundles	23.00 to 27.00
Mixed bor. and turn.	11.00 to 13.00
Machine shop turn.	6.00 to 7.00
Shoveling turnings	14.00 to 15.00
Clean cast. chem. borings	35.00 to 36.00
No. 1 machinery cast	89.00 to 90.00
Mixed yard cast	50.00 to 51.00
Heavy breakable cast	10.00 to 12.00
Stainless	
18-8 prepared solids	500.00 to 520.00
18-8 turnings	400.00 to 420.00
430 prepared solids	90.00 to 110.00
410 solids	80.00 to 90.00

Boston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 72.00 to $ 74.00
No. 2 hvy. melting	62.00 to 64.00
No. 1 dealer bundles	80.00 to 82.00
No. 2 bundles	40.00 to 42.00
No. 1 busheling	80.00 to 82.00
Shredder scrap	78.00 to 80.00
Machine shop turn.	14.00 to 16.00
Shoveling turnings	20.00 to 22.00
No. 1 machinery cast	90.00 to 95.00
Mixed cupola cast	48.00 to 50.00
Heavy breakable cast	20.00 to 22.00

San Francisco

No. 1 hvy. melting	$ 50.00 to $ 52.00
No. 2 hvy. melting	41.00 to 43.00
No. 1 dealer bundles	37.00 to 39.00
No. 2 dealer bundles	19.00 to 21.00
Machine shop turn.	6.00 to 8.00
Cast iron borings	6.00 to 8.00
No. 1 cupola cast	78.00 to 80.00

Los Angeles

No. 1 hvy. melting	$ 52.00 to $ 54.00
No. 2 hvy. melting	42.00 to 44.00
No. 1 dealer bundles	41.00 to 43.00
No. 2 dealer bundles	21.00 to 23.00
Machine shop turn.	6.00 to 8.00
Shoveling turnings	10.00 to 12.00
Cast iron borings	6.00 to 8.00
Elec. furnace, 1 ft. and under (foundry)	77.00 to 79.00
No. 1 cupola cast	77.00 to 79.00

Seattle

No. 1 hvy. melting	$ 73.00 to $ 75.00
No. 2 hvy. melting	62.00 to 64.00
No. 2 bundles	44.00 to 46.00
No. 1 cupola cast	98.00 to 100.00
Mixed yard cast	85.00 to 87.00

Hamilton, Ont.

Brokers buying price per net ton on cars:

No. 1 heavy melting	$ 90.00
No. 2 heavy melting cut 2 ft. and under	87.00
No. 1 dealer bundles	87.00
No. 2 bundles	48.00
Mixed steel scrap	59.00
Bush. new fact. prep'd.	85.00
Bush. new fact. unprp'd.	75.00
Machine shop turn.	45.00
Short steel turn.	43.00
Mixed bor. and turn.	30.00
Cast scrap	73.00

Houston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 90.00 to $ 91.00
No. 2 hvy. melting	74.00 to 75.00
No. 2 bundles	46.00 to 48.00
Machine shop turn.	23.00 to 24.00
Crushed turnings	48.00 to 49.00
Shredder scrap	90.00 to 91.00
Cut structural plate 2 ft. and under	108.00 to 110.00
Unstripped motor blocks	62.00 to 63.00
Cupola cast	86.00 to 87.00

ORDERS RISING AT A SLOWER PACE

Durable goods orders for December indicate a slowing down of the economy, —but only slightly. The strength of the recovery appears stable.

Orders for durable goods rose to an adjusted $96.69 billion, 0.2 pct greater than November, the Commerce Department said. Within the category, nondefense capital goods orders—a bellwether of future plant and equipment spending—rose 2.4 pct in December to an adjusted $25.13 billion.

Increases in orders for electrical and non-electrical machinery industries offset declines in primary metals and transportation equipment.

Electrical machinery orders rose $1.4 billion, or 9.2 pct, to $16.0 billion, while nonelectrical machinery orders were up $600 million, or 3.6 pct, to $16.8 billion.

New orders for primary metals in December declined $1.5 billion, about 12.8 pct, to $10.3 billion. Orders for transportation equipment fell $400 million, about 1.6 pct, to $24.3 billion.

Orders for metalforming machine tools rose dramatically in December, $60 million compared with $44.9 million the previous month. Metalcutting machine tools, however, were down—$91.1 million versus $115.3 million in the earlier month.

The December figures turned out to be better than indicated by earlier advance reports that cover only durables orders. Especially encouraging was the rebound in capital goods orders not related to defense.

The annual figures for factory orders were up more than twice the rate at which prices climbed, showing substantial progress in a year of economic recovery.

The 1983 increase in factory orders was the best since the 12.1 pct gain posted in 1979. That year, however, the gain in dollars was matched by a double-digit inflation rate. Consequently, there was little change in volume during that 12-month span.

Billions of Dollars, Seasonally Adjusted Monthly Total, unless otherwise noted **Source: U.S. Dept. of Commerce**		Latest Month or Qtr.	Previous Month or Qtr	Same Period Year Ago
CAPITAL EXPENDITURES (Annual Rates)				
U.S. Industry, Total	4th Qtr.	$321.6	$313.0	$303.1
Manufacturing, Total	4th Qtr.	114.9	117.4	110.2
Manufacturing, Durable Goods	4th Qtr.	53.5	53.0	50.5
Mining Industry	4th Qtr.	13.1	13.2	13.4
KEY INDICATORS, Durable Goods Manufacturing				
New Orders	Dec.	96.7	96.5	78.7
Shipments	Dec.	96.0	92.2	72.7
Inventories	Dec.	171.2	171.0	177.7
Unfilled Orders	Dec.	322.2	321.4	287.9
NEW ORDERS, METALWORKING				
Capital Goods Producers, Nondefense Industries	Dec.	25.1	24.6	20.6
Capital Goods Producers, Defense Industries	Dec.	7.7	8.1	12.5
Primary Metals, Total	Dec.	10.3	11.8	6.9
Steel (SIC 331)	Dec.	3.7	4.7	2.5
Iron & Steel Castings (SIC 332)	Dec.	1.2	1.1	0.6
Nonferrous Metals	Dec.	5.4	6.0	3.7
Nonelectrical Mach.-Equip. Industries, Total	Dec.	16.8	16.2	14.1
Engines & Turbines	Dec.	1.2	1.3	0.9
Farm Machinery & Equipment (Shipments)	Dec.	1.2	1.1	1.0
Construction, Mining & Mat. Hdlg. Equip.	Dec.	2.8	2.8	1.8
General Industrial Machinery	Dec.	1.4	1.2	1.2
Fluid Power Equipment** (Index-1972=100)	Dec.	230.0	281.0	155.0
Metalworking Machinery	Dec.	0.5	0.7	0.6
Machine Tools, Total ($ Mill., Unadjusted)***	Dec.	151.1	160.2	120.9
Machine Tools, Metalcutting***	Dec.	91.1	115.3	85.8
Machine Tools, Metalforming***	Dec.	60.0	44.9	35.1
Electrical Mach. & Equip. Industries, Total	Dec.	16.0	14.6	12.7
Elec. Transmission Equip. & Ind. Apparatus	Dec.	2.0	1.8	1.7
Household Appliances	Dec.	1.5	1.3	1.0
Communication Equipment	Dec.	5.5	4.8	4.8
Transportation Equip. Industrial, Total	Dec.	24.3	24.6	21.5
Motor Vehicles & Parts (Shipments)	Dec.	15.2	14.3	8.4
Aircraft, Missiles & Parts	Dec.	7.6	7.5	7.2
Shipbuilding & Military Tanks	Dec.	0.2	1.9	5.9
Fabricated Metal Products, Total	Dec.	10.7	10.8	8.5
Instruments, Total	Dec.	4.6	4.3	3.7

*Est.—Commerce Dept.; **Source: National Fluid Power Assn.; ***Source: NMTBA